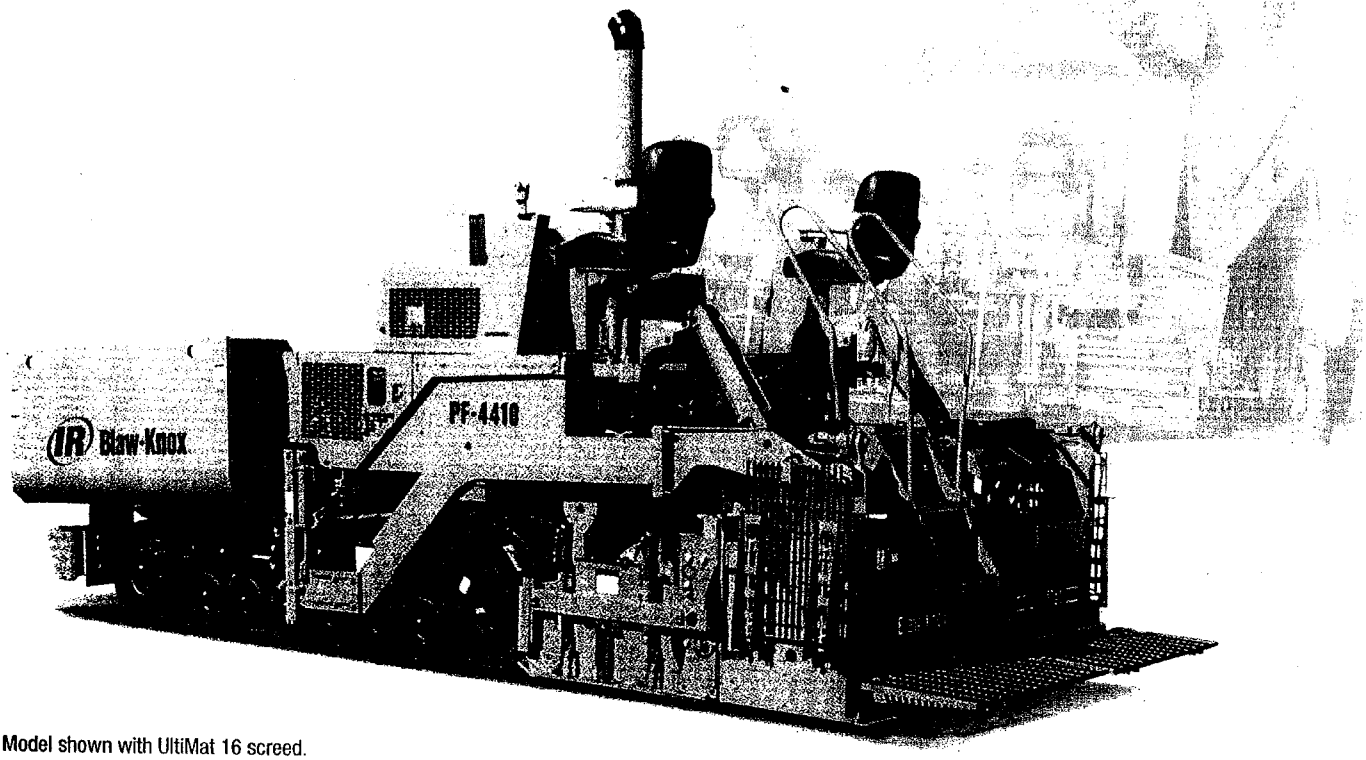
PF-4410 Paver

Ingersoll-Rand



Model shown with UltiMat 16 screed.

A Productive Paver for Every Application

The PF-4410 is a track-mounted, mid-sized paver / finisher capable of placing bituminous base, binder and surface course mixes, cement or lime stabilized sub-base and graded aggregate materials. New standard features, equipment choices and options offer superior quality control, increased productivity and even greater reliability — all while greatly reducing required maintenance time and cost compared to either competitive machines or predecessor models.

KEY FEATURES

- Continuous, Flexible, Hi-Speed, EzRider, Rubber Track — the traction and flotation of a track machine with the mobility and rideability of a wheeled machine — smooth track design for improved rideability.
- Positive Cog / Socket Track Drive — eliminates the potential power loss associated with friction drive slippage.
- Dual Oscillating Bogie Wheels — oscillate front to back and side to side for improved rideability and a more even weight distribution on the track surface.
- Hydraulic Power Tunnels and Baffles (chain curtains) — assists the operator in maintaining an even head of the material in front of the screed and quickly accommodates paving widths to 12' 0" (3.66 m) without additional components.
- Maintenance-free Sealed Auger and Conveyor Bearings — eliminates daily greasing.
- Durable Curved Hopper — rounded configuration of the hopper enhances the flow of hot mix asphalt and makes cleanup quick and easy.
- High-efficiency 16-inch Augers — 3/4-inch thick for better delivery and longer wear. Patented power adjustable height 4.5" – 10.5" (115 – 267 mm) permits the operator to quickly adapt to varying job requirements.
- Designed for Easy Maintenance — pinned engine hoods and removable deck plates provide convenient access to vital components, filters are easily accessible and a common-platform electrical system is utilized.

Exhibit A
(MEMORANDUM OF LAW IN SUPPORT OF INGERSOLL-RAND COMPANY'S MOTION FOR SUMMARY JUDGMENT)

PF-4410 Paver

Specifications

ADDITIONAL FEATURES

- Hydrostatic Direct Traction Drive — eliminates approximately 70 percent of mechanical drivetrain components.
- Easy Access Electrical Circuit Boards — service procedures are faster and easier.
- Counter-rotating Tracks — provide superior tight-quartered maneuverability.
- Central Hydraulic Valve Block with Interchangeable Cartridge Valves — speeds service access and simplifies troubleshooting.
- Unitized Rear Feed Section — reduces service access time to all major feeder system components by approximately 50 percent.
- The Most Extensive Selection of State-of-the-Art Equipment Options — to automate and improve the end result quality of your HMA paving operation.

OPTIONS / ACCESSORIES

- Additional operator's umbrella
- Auger and auger guard extension kits
- Blaw-Kontrol® II
  - Mechanical Grade Sensor
  - UltraEye® V Ultrasonic Grade Sensor
  - Ultra IV™ Sonic Averaging System
  - Mobile Reference Systems
- Engine Shutdown Kit
- Generator set
- Material Indicator Kit
- Material Management Kit
- Light beacon and worklights
- Truck hitch

MODEL	PF-4410	
DIMENSIONS	**US**	**METRIC**
Basic Screed Width	8'	2.44 m
Max Paving Width	25'	7.62 m
Paving Depth	1/4" – 8"	6.35 – 203.2 mm
Hopper Capacity	8.5 t (155 cu ft)	7.7 T (4.39 m³)
Gage Width — Center to Center of Tracks	76.25"	1937 mm
Length of Track on Ground	102"	2591 mm
Track Width	14"	355.6 mm
Travel Height with Exhaust	10' 3-1/4"	3.13 m
Width — Hopper Sides Up	8' 2-1/2"	2.50 m
Width — Hopper Sides Down	10' 5"	3.18 m
Length — Wedge-Lock Screed	17' 2-3/8"	5.24 m
Length — OmniScreed IA	17' 2-3/8"	5.24 m
Length — UltiMat 16	17' 10"	5.43 m
ENGINE		
Brand		Cummins QSB 5.9-30T
Horsepower @ 2,100 rpm	158 hp	117.8 kW
Electrical System	12V, negative ground with 130A alternator	
PERFORMANCE		
Paving Speed	242 fpm	73.8 m/min
Travel Speed	8.5 mph	13.7 km/h
Suspension	Unitized, bolt-on track frames, 6 sets of dual oscillating bogie wheels	
WEIGHT		
Tractor Only	28,900 lb	13109 kg
With Wedge-Lock Screed	31,500 lb	14288 kg
With Wedge-Lock Screed with 2.5/5 Hyd. Extns.	32,720 lb	14842 kg
With OmniScreed IA	32,850 lb	14901 kg
With UltiMat 16	35,950 lb	16307 kg
CAPACITIES		
Cooling Capacity	26 qt	25 L
Fuel Capacity	38 gal	144 L
Hydraulic Reservoir Capacity	40 gal	151 L

Product improvement is a continuing goal at Ingersoll-Rand.
Designs and specifications are subject to change without notice or obligation.

SCREED CHOICES

- **8' (2.44 m) Wedge-Lock® Screed** with optional modular extensions to extend paving width up to a standard maximum of 25' 0" (7.62 m). Heating choices of diesel, propane or electric available.
- **8' (2.44 m) Wedge-Lock Screed with 2.5/5 Hydraulic Extensions** to extend paving width up to a maximum of 13' 0" (3.96 m). Optional modular extensions for the telescoping sections will increase the maximum paving width to 15' 0" (4.57 m). Heating choices of diesel, propane or electric available. Hydraulic extensions are not equipped with heat and vibration.
- **8' (2.44 m) Power Extendible OmniScreed® IA** with a maximum, fully screeded, extended paving width of 13' 1-1/2" (4.00 m). Optional modular Wedge-Lock extensions will increase the paving width to 17' 2" (5.23 m), diesel heated.
- **8' (2.44 m) Power Extendible UltiMat® 16 Screed** with a maximum extended paving width of 16' 0" (4.88 m). Optional modular extensions will increase the maximum paving width to 18' 0" (5.49 m).
  - Equipped with a patented, high-efficiency electric heating system
  - Four heating zones for even distribution
  - Temperature control automatically maintained by a patented Energy Management System

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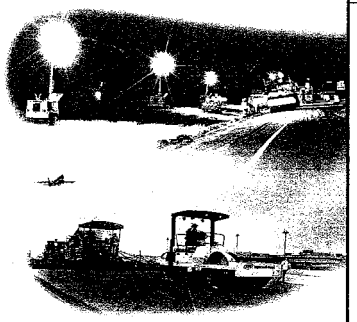
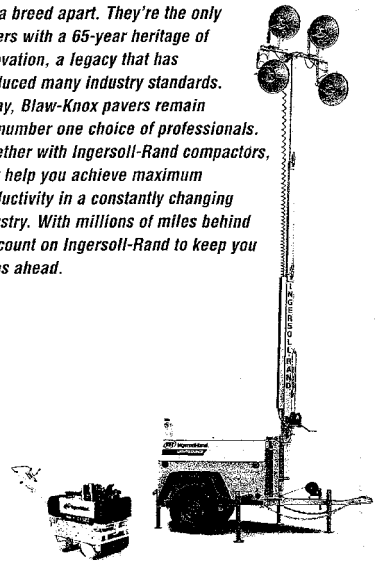


More than a line of pavers, a lineage of paving innovation.

Blaw-Knox pavers from Ingersoll-Rand are a breed apart. They're the only pavers with a 65-year heritage of innovation, a legacy that has produced many industry standards. Today, Blaw-Knox pavers remain the number one choice of professionals. Together with Ingersoll-Rand compactors, they help you achieve maximum productivity in a constantly changing industry. With millions of miles behind us, count on Ingersoll-Rand to keep you miles ahead.



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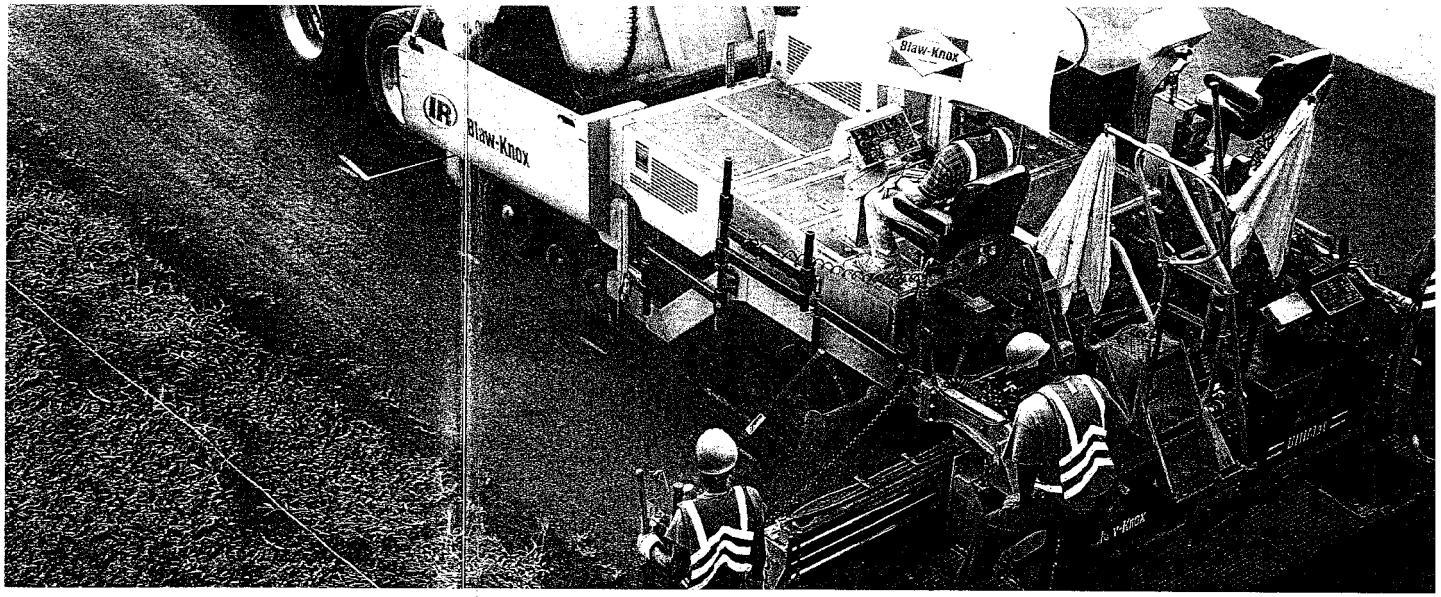
Blaw-Knox Paving Equipment

IRCO 0106

Ingersoll-Rand

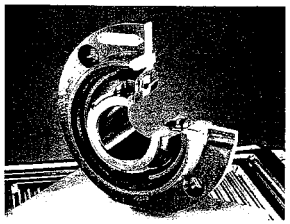
No other pavers blend innovation and simplicity as smoothly as Blaw-Knox.

You want an advanced paver capable of meeting today's challenges. But, you also want a reliable machine that won't let you down. At Ingersoll-Rand, those aren't contradictory demands. Every paver in our Blaw-Knox™ line combines state-of-the-art engineering with a keep-it-simple approach. You'll find superior drive systems, an unmatched selection of screeds and the industry's most accurate automation, along with low-maintenance components, rugged construction and operator-friendly controls. Whichever Blaw-Knox you choose, technology and simplicity are both part of the mix.

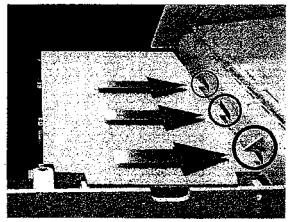


State-of-the-art engineering. Combined with a keep-it-simple approach.

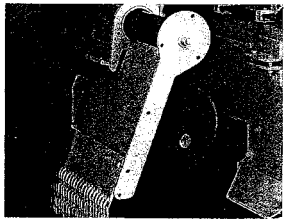
High-efficiency augers function over a wide range.
Blaw-Knox pavers are equipped with 3/4-inch thick augers — the most substantial in the industry — for better delivery and longer wear. Patented power-adjustable height permits the operator to quickly adapt to varying job requirements.



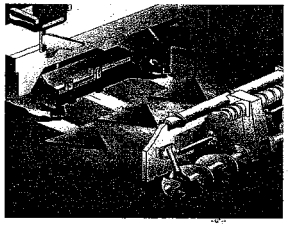
Sealed bearings keep maintenance to a minimum.
Only Blaw-Knox offers maintenance-free, sealed auger and conveyor bearings. With one less maintenance task to perform every night, you can run longer and be more productive each day. Sealed bearings also eliminate the potential of failure from improper greasing techniques.



Clamp-in conveyor floor plates cut replacement time in half.
Exclusive to Blaw-Knox 10-foot pavers and the 8-foot PF-2181, clamp-in conveyor floor plates are a vastly superior alternative to traditional bolt-in designs. Unlike bolt-in plates, which continually expose the bolts to asphalt material, the clamp-in design protects the bolts from the elements. This improvement has reduced replacement time by 50 percent.



Power tunnels and baffles offer greater material control.
Hydraulic power tunnels and containment baffles (chain curtains) assist the operator in maintaining an even head of material in front of the screed. This, in conjunction with a steady flow of material and a steady paving speed, will produce a smoother, more homogenous mat. Tunnels and baffles will also protect the undercarriage of the paver by minimizing the forward roll and intrusion of material. Optional on wheeled pavers.



Unitized rear-feed section detaches for service ease.
The entire rear-feeder section can simply and quickly be detached for maintenance or repairs. This feature provides access to both the feed system and the rear of the tractor, and significantly reduces service time.

Dual operator consoles provide convenience and control.
Two fully equipped control stations, utilized on all Blaw-Knox 10-foot pavers and the 8-foot PF-2181, allow the operator to work safely with the best visibility. Dual consoles facilitate operation from either side. Other Blaw-Knox 8-foot machines utilize dual operator stations with a swing control console.

Blaw-Knox track pavers.
The drive to excel on multiple jobsites.

Blaw-Knox track pavers thrive under a variety of conditions. On soft bases, the positive cog-drive system and flexible rubber track provide a clear advantage. Where others slip, they grip, with far less vulnerability to debris than friction systems. Track drive also offers better flotation over thin and thick spots without disturbing the surface, and superior traction on significant uphill and downhill grades. Versatile, multipurpose machines, Blaw-Knox track pavers keep your production on course.

Parts commonality keeps pavers in service.
Blaw-Knox pavers are engineered with a high degree of parts commonality. Ninety percent of the wear parts on 10-foot pavers, and 75 percent on 8-foot models, are common to other Blaw-Knox pavers in their class. The parts you need most frequently are in stock to keep you paving.

Adjustable flow gates maintain a uniform head of material.
Operator-controlled flow gates meter the amount of mix to the augers. Conveyor and auger systems are linked to assure uniform delivery of material.

Durable curved-hopper design maintains the flow.
The rounded configuration of the hopper enhances the flow of hot mix asphalt and makes cleanup quick and easy. A continuous flow of mix helps minimize heat loss.

An Ingersoll-Rand paver for every paving application.

MODEL	PF-4410	PF-5510
Engine Brand	Cummins QSB 5.9-30T	Cummins QSB 5.9-30TAA
Engine hp @ rpm (kW)	158 @ 2,100 (117.8)	188 @ 2,100 (140.2)
Paving Speed fpm (m/min)	242 (73.8)	230 (70.1)
Travel Speed mph (km/h)	8.5 (13.7)	10 (16.1)
Basic Screed Width ft (m)	8 (2.44)	10 (3.05)
Max Paving Width ft (m)	25 (7.62)	30 (9.14)
Paving Depth in (mm)	1/4 (6.35) – 8 (203.2)	1/4 (6.35) – 12 (304.8)
Hopper Capacity cu ft (m^3)	155 (4.39)	218 (6.17)
Overall Travel Length w/ Screed* ft (m)	17' 10" (5.43)	21' 1" (6.43)
Overall Travel Height w/ Exhaust ft (m)	10' 3-1/4" (3.13)	9' 7" (2.92)
Width (hopper wings in) ft (m)	8' 2-1/2" (2.5)	10 (3.05)
Width (hopper wings out) ft (m)	10' 5" (3.18)	10' 4" (3.15)
Length of Track on Ground in (cm)	102 (259.1)	117 (297.2)
Weight w/ Screed* lb (kg)	35,950 (16307)	40,965 (18851)

*Ask distributor for configuration options. Measurements (approx.) represent machine with heaviest screed.

Positive cog-drive prevents slippage.
Blaw-Knox patented system combines a flexible, molded rubber track with a positive cog / socket drive. It eliminates the potential power loss and steering control issues associated with friction drive slippage. The high-tensile strength track is protected by the longest warranty in the industry.

Suspension system smoothes the ride.
Oscillating, rubber-bonded bogie wheels permit the entire track length to flex and conform to the contour of the base. Taken as a whole, the undercarriage produces exceptional rideability, for high levels of comfort and productivity, and a smooth mat.

Track adjustment prolongs life.
Getting the most life out of a paver's tracks is crucial to maximum productivity. The Blaw-Knox track adjustment system tensions the track automatically. In addition, the track can be manually realigned without removing the tracks from the machine.

Blaw-Knox wheeled pavers.
Set the pace for productivity.

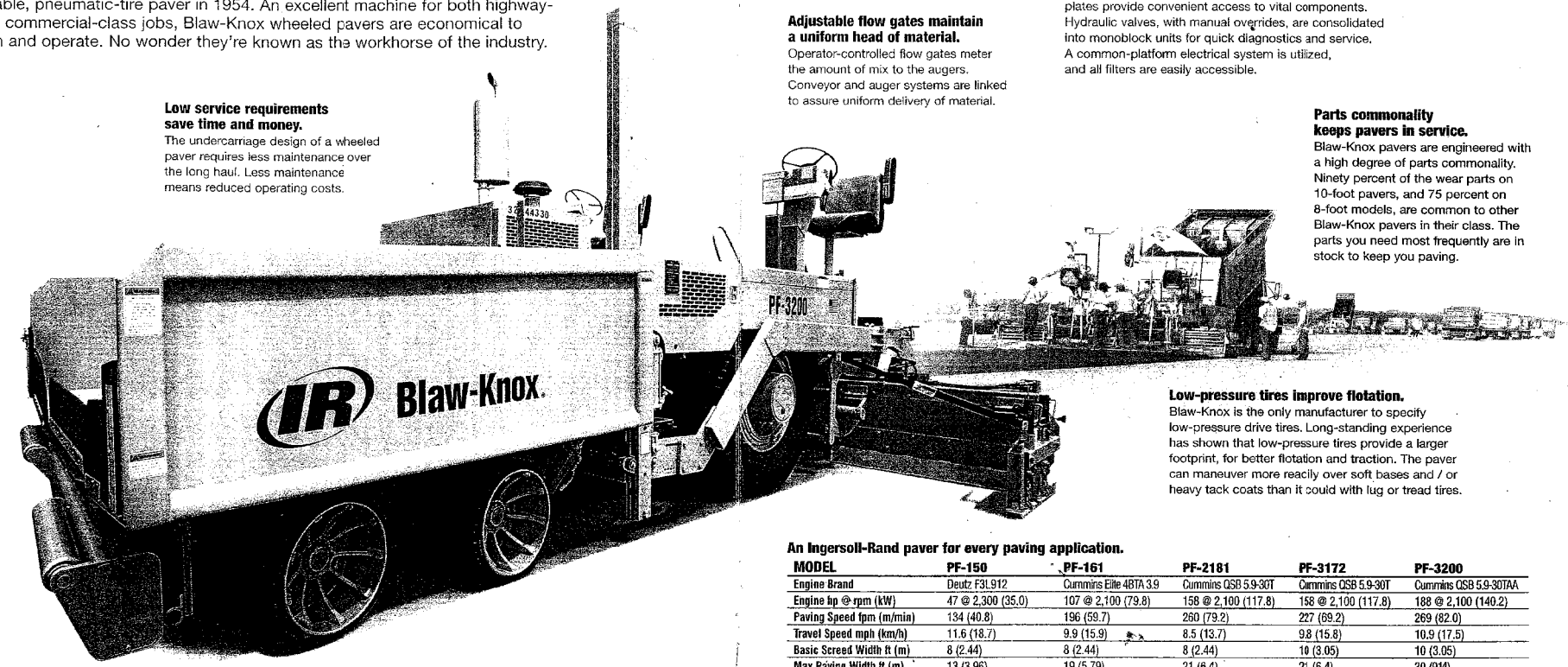
The paving industry is evolving. Maneuver through its changes with ease on the strength of Blaw-Knox wheeled pavers. They offer all the speed, mobility and efficiency you would expect from the company that developed and introduced an effective and reliable, pneumatic-tire paver in 1954. An excellent machine for both highway- and commercial-class jobs, Blaw-Knox wheeled pavers are economical to own and operate. No wonder they're known as the workhorse of the industry.

Low service requirements save time and money.
The undercarriage design of a wheeled paver requires less maintenance over the long haul. Less maintenance means reduced operating costs.

Adjustable flow gates maintain a uniform head of material.
Operator-controlled flow gates meter the amount of mix to the augers. Conveyor and auger systems are linked to assure uniform delivery of material.

Designed for easy maintenance.
Like all Blaw-Knox pavers, our wheeled models are specifically designed for easy service. Pinned engine hoods and deck plates provide convenient access to vital components. Hydraulic valves, with manual overrides, are consolidated into monoblock units for quick diagnostics and service. A common-platform electrical system is utilized, and all filters are easily accessible.

Parts commonality keeps pavers in service.
Blaw-Knox pavers are engineered with a high degree of parts commonality. Ninety percent of the wear parts on 10-foot pavers, and 75 percent on 8-foot models, are common to other Blaw-Knox pavers in their class. The parts you need most frequently are in stock to keep you paving.



Low-pressure tires improve flotation.
Blaw-Knox is the only manufacturer to specify low-pressure drive tires. Long-standing experience has shown that low-pressure tires provide a larger footprint, for better flotation and traction. The paver can maneuver more readily over soft bases and / or heavy tack coats than it could with lug or tread tires.

Offset bogie front suspension spreads the load.
Only Blaw-Knox utilizes offset front bogie wheels. This unique design distributes the weight of the front end more evenly for better traction than conventional arrangements. The paver keeps its pace, even on difficult terrain.

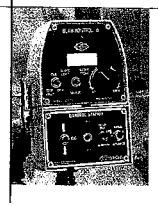
An Ingersoll-Rand paver for every paving application.

MODEL	PF-150	PF-161	PF-2181	PF-3172	PF-3200
Engine Brand	Deutz F3L912	Cummins Elite 4BTA 3.9	Cummins QSB 5.9-30T	Cummins QSB 5.9-30T	Cummins QSB 5.9-30TAA
Engine hp @ rpm (kW)	47 @ 2,300 (35.0)	107 @ 2,100 (79.8)	158 @ 2,100 (117.8)	158 @ 2,100 (117.8)	188 @ 2,100 (140.2)
Paving Speed fpm (m/min)	134 (40.8)	196 (59.7)	260 (79.2)	227 (69.2)	269 (82.0)
Travel Speed mph (km/h)	11.6 (18.7)	9.9 (15.9)	8.5 (13.7)	9.8 (15.8)	10.9 (17.5)
Basic Screed Width ft (m)	8 (2.44)	8 (2.44)	8 (2.44)	10 (3.05)	10 (3.05)
Max Paving Width ft (m)	13 (3.96)	19 (5.79)	21 (6.4)	21 (6.4)	30 (9.14)
Paving Depth in (mm)	1/4 (6.35) – 12 (304.8)	1/4 (6.35) – 12 (304.8)	1/4 (6.35) – 12 (304.8)	1/4 (6.35) – 12 (304.8)	1/4 (6.35) – 12 (304.8)
Hopper Capacity cu ft (m³)	107 (3.03)	181 (5.13)	182 (5.15)	182 (5.15)	225 (6.37)
Overall Travel Length w/ Screed* ft (m)	15' 3" (4.65)	17' 8-3/8" (5.39)	21' 4" (6.50)	21' 4" (6.50)	22' 5" (6.83)
Overall Travel Height w/ Exhaust ft (m)	9' 9" (2.97)	10 (3.05)	10' 4" (3.15)	10' 4" (3.15)	10' 4" (3.15)
Width (hopper wings in) ft (m)	8' 2-1/4" (2.5)	8' 2-1/2" (2.5)	8' 2-1/2" (2.5)	10 (3.05)	10 (3.05)
Width (hopper wings out) ft (m)	10' 5" (3.18)	10' 5" (3.18)	10' 4" (3.15)	10' 4" (3.15)	10' 4" (3.15)
Wheelbase in (cm)	84 (213.4)	75 (190.5)	89 (226.1)	90 (228.6)	109 (276.9)
Weight w/ Screed* lb (kg)	15,290 (6935)	24,300 (11022)	32,000 (14515)	33,330 (15118)	36,715 (16654)

*Ask distributor for configuration options. Measurements (approx.) represent machine with heaviest screed.

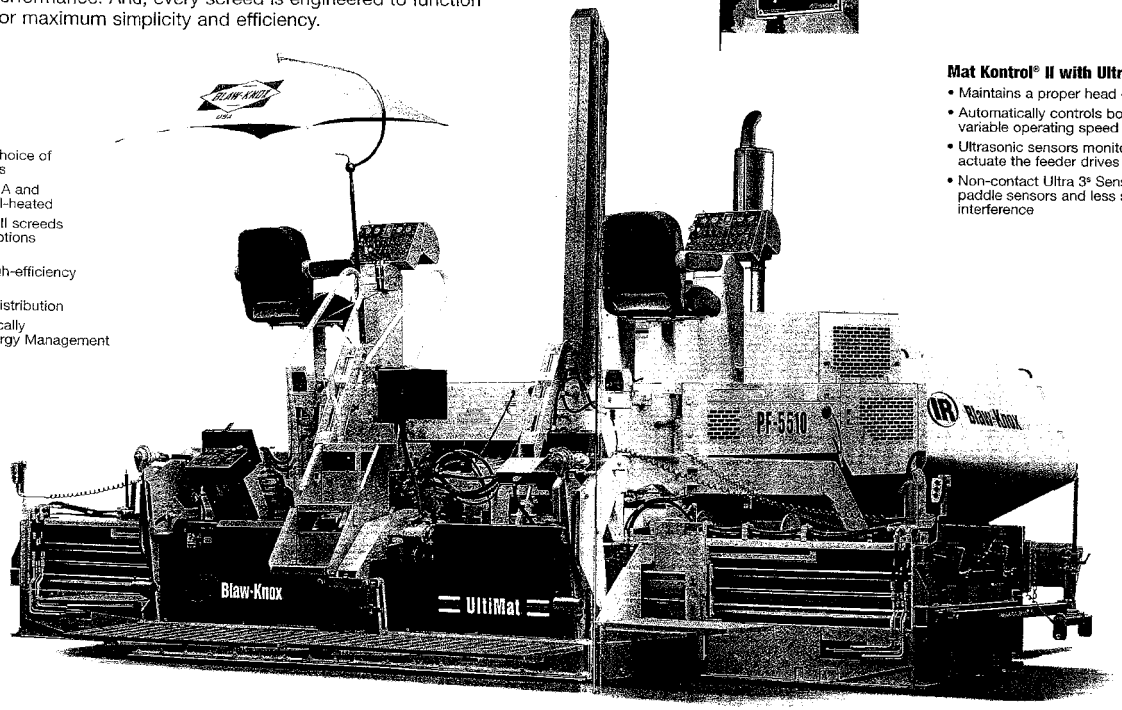
Blaw-Knox screeds. Set the level of quality.

The quality of the finished job is largely determined by the performance of the screed. So much depends on it — laying and sealing a smooth mat, beginning the compaction process, producing tight joints and establishing grade and slope. That's why contractors choose Blaw-Knox screeds to produce the highest quality lift after lift. Our complete line is unmatched for selection and performance. And, every screed is engineered to function as one with Blaw-Knox tractors for maximum simplicity and efficiency.



Blaw-Kontrol® II.
- Now in its seventh generation since being developed by Blaw-Knox
- Automatically maintains the grade and slope of the finished mat
- Grade referencing with either mechanical or ultrasonic grade sensors
- Resolution is between .005 inches and .020 inches in grade and .010 percent of slope

The widest range of screeds and opportunities.
- Wedge-Lock® screeds offer the choice of diesel, propane or electric heaters
- Power-extendable OmniScreed® IA and OmniScreed iII screeds are diesel-heated
- Power-extendable OmniScreed VII screeds provide diesel or propane heat options
- UltiMat® screed (shown here)
  - Equipped with a patented, high-efficiency electric heating system
  - Four heating zones for even distribution
  - Temperature control automatically maintained by a patented Energy Management System



Mat Kontrol® II with Ultra 3s® Sensors.
- Maintains a proper head of material to lay a smooth mat
- Automatically controls both the on / off action and infinitely variable operating speed of the auger systems
- Ultrasonic sensors monitor the volume of material and actuate the feeder drives as necessary
- Non-contact Ultra 3s Sensors are more accurate than paddle sensors and less susceptible to damage, heat and interference

Ultra IV™ Sonic Averaging System.
- Four non-contact sensors provide a portable and easily maneuverable alternative to the floating beam assembly
- Sonic averaging beams near front and rear of the paver instantaneously record the distance from the reference surface
- Data is averaged and actuates the tow point cylinders to produce a smooth mat

Screed types increase your options.
- 8-foot and 10-foot basic screed widths
- Hydraulic paving extension kits up to 30 feet
- Front or rear-mounted extensions
- Maximum flexibility to take on all kinds of paving projects

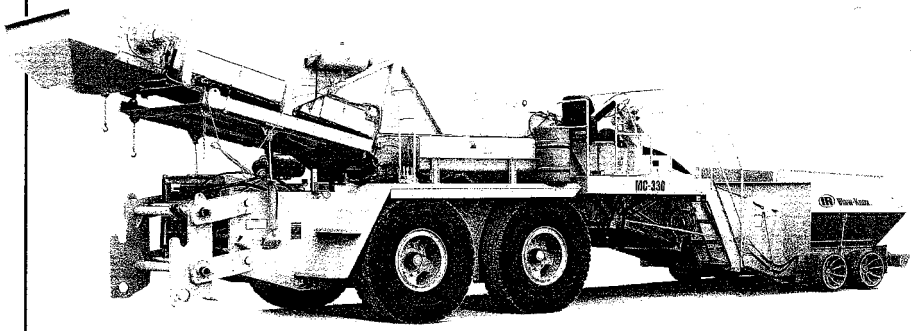
UltraEye® V Ultrasonic Grade Sensor.
- An optional sensor head that averages a series of signals and is directly interchangeable with the standard mechanical grade sensor
- Provides a non-contact reference with an accuracy of .020 inches in grade
- Can sense off the existing grade, an adjacent mat or curb, a string line or off a mobile reference

Remote control for operator flexibility.
- Control screed functions from mobile locations
- Removable remote location controllers with extendable coil cords
- Control of screed tow-point / angle of attack, auger / conveyor override and screed extension / retraction

Replaceable alloy screed plates last twice as long.
- Both main and extendible screed sections equipped with one-piece, bolt-on replaceable screed plates
- QT 400 alloy steel, they offer up to twice the service life of alternative AR steel plates
- Maintains mat smoothness, with less downtime for replacement

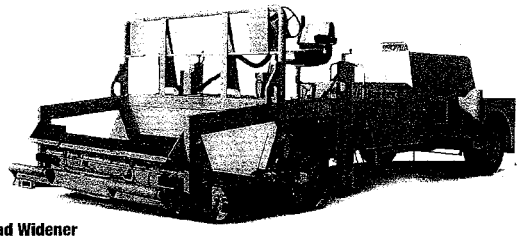
Blaw-Knox automation options. Profit from precision.

With DOTs, municipalities and others moving to results-based specifications, accuracy is more important than ever. To help ensure exceptionally high quality, Blaw-Knox offers the most accurate leveling system for an asphalt paver in the industry, along with an array of optional, advanced automation controls. The goal for contractors is to be paid for every ton of asphalt laid. When compensation is determined by fractions of an inch, rely on Blaw-Knox automation to achieve precise results.



More ways to get the material advantage.

Material Transfer Device
Take your company to the next level of productivity with a Blaw-Knox MC-330 material transfer device. Stationed in front of your paver, its 30-ton capacity provides a mobile and continuous supply of HMA. A material transfer device eliminates the start / stop cycle and downtime associated with truck transfers. The large mass of material onboard minimizes heat loss and additional mixing in the hopper insert helps re-blend the material. An optional swing conveyor provides flexibility while working in offset paving applications, increasing the storage capacity of the unit. Field experience has shown that a contractor using a material transfer device can actually pave at a slower pace for improved quality, and increase production, within the same time frame. The payback is tangible: contractors can achieve better quality in less time, with increased production profitability.



Road Widener
A road widener can be an indispensable tool to the contractor who paves rural roads or highways with shoulders. A superior alternative to the grader, it places precisely the right amount of material on the shoulder with no waste of product or time. For the ultimate in efficiency, the road widener also grades and slopes the shoulder at speed. As a market leader manufacturer, Blaw-Knox offers this specialty tool to contractors who want to streamline their shoulder operations.

The most important part.

Paving equipment is just the beginning at Ingersoll-Rand. We're committed to you for the long haul with an industry-leading support system. It will keep you up and running for as long as you own Ingersoll-Rand equipment.

It all starts with your distributor, who's dedicated to the business of asphalt paving and provides you with an invaluable source for product information, training, technical service bulletins, service and parts. Among other elements of the Ingersoll-Rand support network:

Road Institute
Factory-sponsored training in all aspects of asphalt paving operations.

Field service representatives
Regionally located representatives who support your distributor with troubleshooting expertise on difficult service problems.

Factory technical support
Available at each Ingersoll-Rand manufacturing plant for all product lines.

Expanded and expedited parts delivery
Distributor stocking program for frequently used parts and express availability for other parts.

Standard warranty
12-month / 1,000-hour warranty on both large and small paving equipment. Optional extended warranty packages are available.

Product upgrades
Retrofit packages and improvements are designed to keep older equipment productive.

Financial solutions
Financing and leasing options tailored to meet your individual business needs offered through your dealer. Our streamlined loan application and credit approval process can quickly make your business plans a reality.

Purchasing paving equipment is an investment. Service and support from Ingersoll-Rand protects the value of your investment down the road.

You're not just buying a powerful piece of equipment. You're investing in the strength of Ingersoll-Rand and its people. From engineers to factory technicians, from field representatives to your distributor, they support your purchase and are committed to helping you realize maximum value job-after-job, day-after-day. Wherever you see a piece of Ingersoll-Rand equipment, you'll know that all of Ingersoll-Rand is behind it.